

IN THE SPECIFICATION

Please replace the paragraph beginning on page 14, line 1, with the following replacement paragraph:

The present disclosure has proceeded on the basis that all of the processing involved in controlling access to medium 11 is carried out by circuitry within the stations themselves, e.g., by a so-called network interface card, NIC1, NIC2, NIC3, NIC4, NIC5, and NIC6, installed in a personal computer or workstation. The network interface cards NIC1, NIC2, NIC3, NIC4, NIC5, and NIC6 can include, for example, inviting module IM1, IM2, IM3, IM4, IM5, and IM6, respectively, responding module RM1, RM2, RM3, RM4, RM5, and RM6, respectively, joining module JM1, JM2, JM3, JM4, JM5, and JM6, respectively, and separating module SM1, SM2, SM3, SM4, SM5, and SM6, respectively. However, it may be desirable to provide a separate outboard device, interfaced between the medium and a conventional type of network interface card so that changes to the node itself are not needed. Indeed, it is contemplated by us that the present invention can be employed in such outboard implementations. In present arrangements, delays that may be encountered by the network interface card in gaining access to the medium do not pose a problem because once access to the medium is acquired the network interface card can communicate with the application in such a way as to obtain from the application a sufficient amount of data beyond that which would normally be included within a packet so as to compensate for the delay as though, from a throughput standpoint, the delay never occurred. An outboard implementation would in all likelihood not have the benefit of such communication back to the application so that, if nothing more were done, then, even though all the accumulated data could ultimately get transmitted, unduly large delays could occur. We believe that an advantageous solution to this problem is that the outboard device--having been delayed and having transmitted such data as was provided by the application in its standard format--will try to "buy back" some of the delay by setting its timer to a smaller value than t_{access} for a sufficient number of access periods to accommodate the delay that was incurred. In determining an appropriate timer setting, the device would need to be sure that the newly scheduled access time differs from those of any of the other then-active real-time stations by at least t_{inter} in order to preclude collisions among the real-time stations.

Please replace the paragraph of the Abstract, at page 21, line 2, with the following replacement paragraph:

A contention-based network which allows real-time traffic to exist as multiple independent linked-list chains or under certain conditions to be assembled into multiple linked-list chains. A time separation is enforced between the various multiple chains, which are limited to a predetermined maximum number of stations that each can have in order to allow non-real-time stations to obtain timely access to the medium. Ones of the multiple chains may also be joined into a single chain. Blackburst contention is used to enable a chain to be reconstituted robustly from non-anticipated interruptions, such as the failure of one of its stations.